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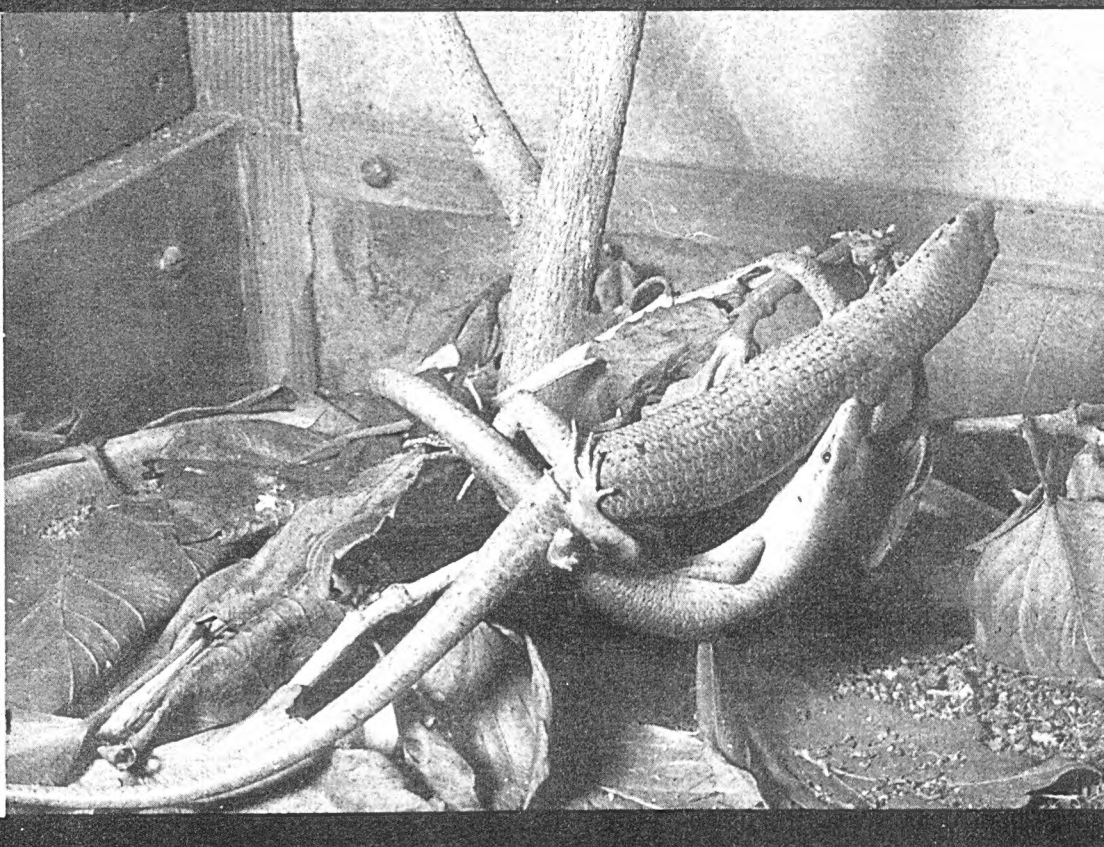

EMOIA CYANOGASTER

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OBJECTS

1. To promote the scientific study of amphibians and reptiles.

2. To promote an active interest in conservation and in particular of amphibians and reptiles and their habitats.

3. To publish and distribute the journal known as "Herpetofauna".

4. To promote liaison between the member Societies and between individuals through field work, conventions, the distribution of "Herpetofauna" and the distribution of other information.

5. To facilitate representation at the national and international level of its member societies' interests, particularly where a unified stand is needed.

EDITORIAL

Over three years ago the first moves were made to form an Affiliation of herpetological societies in Australia. Several meetings were held between the founding societies from South Australia, Victoria and New South Wales, at which the Affiliation's essential features were developed and discussed. Some of its proposed functions have been implemented before its formation, mainly because their success or failure were indications of the Affiliation's potential. The outcome is very encouraging: Herpetofauna is developing into a journal of Australasian appeal and significance. The last two issues were distributed more widely than ever before, interstate liaison has developed to a very high level, and the need for a unified stand on certain issues has been realised. The potential exists to extend the Affiliation and its functions throughout Australia.

A draft constitution for the proposed Australasian Affiliation of Herpetological Societies is being circulated amongst the founding societies. This will need careful consideration before being accepted, to ensure the Affiliation's future success. Members of the founding societies have the opportunity to involve themselves and are urged to do so. It is hoped that the Affiliation will be a reality by the end of April 1976.

Membership application will be open to any formally constituted Australasian society with an active interest in herpetology. Interested societies are asked to consult the June 1976 issue of Herpetofauna for details.

COVER PHOTOGRAPH - MATING PAIR OF EMOIA CYANOGASTER

In Australia the genus Emoia comprises only two known species (E. cyanogaster and E. atrocostata) and is restricted to Torres Strait and the tip of Cape York Peninsula. Emoia is, however, widespread throughout the islands of the South Pacific, extending from about the islands of Fiji to New Guinea, and comprising some forty recognised species. Of the species for which reproductive data are available (only about fifteen), all are oviparous, and most, including E. cyanogaster have a constant clutch size of two.

Photo courtesy G. Millen (Australian Museum).

THE REPTILES OF THE

MT. LOFTY RANGES, SOUTH AUSTRALIA. PART 1.

by H.F.W. Ehmann, 55 Braund Rd., Prospect, 5082.

Summary:

During 1974 members of what is now the South Australian Herpetology Group undertook several surveys of the southern Mount Lofty Ranges within 100 km. of Adelaide. The following reports on and compares the findings at three specific localities and in the Ranges generally.

Introduction:

The most recent account of the reptiles in the Mt. Lofty Ranges is that of Mitchell (1953).

The Mt. Lofty Ranges are essentially rounded hills of which Mt. Lofty (727 m.) is the highest. They extend from Fleurieu Peninsula in the south to Burra in the north, and are structurally continuous with the Flinders Ranges to the north and Kangaroo Island to the south. The western slopes to the narrow coastal Adelaide plain and the Gulf of St. Vincent are steep, while to the east the slopes merge more gently with the Murray Basin. Rock outcrops with associated crevices, exfoliations and rock slabs occur throughout the ranges.

The climatic pattern is of warm to hot dry summers, and cool, wet, mild winters.

The Localities:

(1) Mylor - approximately halfway through the Ranges. The area surveyed was an open gully south-west of Mylor with a creek flowing south into the river Onkaparinga. The western side of the gully had been cleared. The eastern side was steeper and uncleared with rock outcrops and associated large rock slabs.

In the sandy soil grew a heavy undergrowth of Casuarina muelleriana and other sclerophyllous shrubs with Eucalyptus baxteri being the dominant tree species.

(2) Mt. Barker - the highest ridge on the eastern side of the Ranges. The summit ridge is 1.5 km. long and aligns north-south with extensive rocky outcrops on the eastern side. Casuarina stricta, large Banksia marginata and Acacia pycantha were the dominant tree forms on the uncleared summit area. The surrounding slopes and farmlands have been extensively cleared. Several spot checks were also made 5-15 km. to the southeast along Mt. Barker Creek, which drains into the Bremer River and thence to the River Murray. Scattered low outcrops were present and there has been almost complete clearing of the native vegetation.

(3) Clarendon - on the western side of the Ranges. An area 2 km. to the north-east of this was visited. There had been little clearing in the immediate area. The native vegetation was similar to that at Mylor, with a few rock outcrops along the gullies.

Results are summarised in Table I

Position in Ranges:	West	Central	East
Locality:	Clarendon	Mylor	Mt. Barker
Date:	24 Nov.1974	21 July 1974	20 Oct.1974
Species		Number observed	
Amphibolurus barbatus	(1)	(1)	3
Amphibolurus decresii	5	8	3
Aprasia striolata	4	2	1
Gehyra variegata	0	0	5

Phyllodactylus marmoratus	2	5	2
Underwoodisaurus milii	(1)	(2)	2
Egernia cunninghami	(7)	(2)	0
Egernia striolata	0	0	15
Egernia whitii	5	8	0
Hemiergis decresiensis	4	8	3
Leiolopisma guichenoti	14	2	10
Lerista bougainvilli	3	3	4
Tiliqua rugosa	2	(1)	8
Suta flagellum	(2)	4 (8)	1

Table I. Table of species and number of specimens observed.

Numbers in brackets are sightings at times other than indicated. Representative specimens were lodged in the South Australian Museum and all other specimens were released.

Observations:

Amphibolurus decresii

The Clarendon and Mt. Barker specimens were active amongst rocky outcrops or sheltering in relatively wide exposed crevices.

Those at Mylor were torpid in deep, narrow, close fitting rock crevices or exfoliations. Seven specimens were dampened (more or less permanently) by seepage and rainwater. Complete, almost adherent ventral surface contact with the substrate was noted. The substrate rock was always well embedded in soil and usually massive (at least 60 cm. across). The lizards probably chose such sites and postures to ensure moderation of winter temperature extremes.

Aprasia striolata

The Mylor and Mt. Barker specimens were secreted under flat rocks on sandy soil. Three of the four specimens seen at Clarendon were active and moving about on the ground amongst low heathy vegetation between 11h00 and 15h00.

Gehyra variegata

Narrowly sympatric with Phyllodactylus marmoratus at Mt. Barker, and also known from Callington and Monarto to the east and Eden Valley to the north. Found in rock crevices and under loose rock slabs. Usually associated with dryer areas to the north and north-east. Mt. Barker is the western-most locality known in the southern Mt. Lofty Ranges, for this species.

Phyllodactylus marmoratus

Specimens at all three localities were under thin flat stones or loose bark on fallen tree trunks. This species is most common on the western slopes and in the Ranges. It also inhabits the coastal areas around Fleurieu Peninsula. On 16th September 1972 a communal egg chamber with 30 eggs was found under a small pile of flat rocks near Deep Creek, Fleurieu Peninsula. Four of the hard, rounded eggs taken hatched 6 weeks later.

Egernia cunninghami

The specimens seen were in deep crevices formed by massive exfoliation of large boulders. The species is restricted to the western areas of the southern Mt. Lofty Ranges.

Egernia striolata

The 15 specimens from Mt. Barker and to the south east were all found in crevices or under exfoliated rock slabs. On Mt. Barker they were observed foraging amongst rubbish left by picnickers. This is the westernmost locality known in the southern Ranges. The species is also known from dead trees in the Murray Valley and

rock outcrops in the South Para River area southeast of Gawler.

Egernia whitii

All specimens were disturbed in well developed burrow systems excavated into soil under well-embedded rock slabs. Dense shrubs and tussock grass covered the surrounding areas. Two of the eight Mylor specimens were dry, active and near their burrow entrances when caught, suggesting that they had been basking and possibly foraging. The other six specimens were wet, inactive and deep in their burrows. No more than two adults and one subadult were found in any one burrow system.

Hemiergis decresiensis

Found under bark and flat stones on soil with high proportion of dry rotting wood, leaves and grass. Generally found in higher, wetter areas of the Southern Ranges. Hemiergis peronii, a larger skink described in detail by Smyth (1968) replaces H. decresiensis on the lower, dryer areas on the Adelaide plain, and also the eastern slopes in the vicinity of Callington.

Leiolopisma guichenoti

All specimens were found in areas with only moderate ground cover, either secreted under logs and rocks or actively foraging amongst leaf litter.

Lerista bougainvilli

All specimens were found in loose sandy soil under flat rocks, logs or bark. One of the Mylor specimens was in sand and leaf debris settled in a depression, 10 cm. across by 2 cm. deep, in a boulder. A thin small slab covered the sand which was waterlogged almost to a slurry consistency. The skink was inactive and had probably been there some time. Its snout was clear of the waterlogged sand.

Suta flagellum

All specimens were found under flat, close-fitting rocks usually on well embedded boulders or massive low rock outcrops. Three of the Mylor specimens were under flat rocks on sandy or sloping well drained soil. In August 1975 I revisited the Mylor locality and could not find any specimens. Winter rains had heavily waterlogged the soil, and also partly infilled many of the formerly ideal rock-on-rock sites with soil and rotting vegetation. This results in prolonged wetness due to the "blotting" effect of soil and debris. Prolonged wetting conditions are probably detrimental to S. flagellum and the small population had presumably moved to drier shelter.

The following species are also known from the southern Mt. Lofty Ranges.

Delma molleri - widespread but not common.

Lialis burtonis - uncommon.

Pygopus lepidopodus - uncommon.

Diplodactylus vittatus - uncommon and confined to the drier or well drained slopes and gullies.

Heteronotia binoei - to date only found on the dry eastern slopes north-east of Eden Valley in the eastward flowing intermittent water courses.

Varanus gouldii rosenbergi - inhabits woodland near Mylor and further south at Kuitpo: sandy, well-drained soils are associated with the woodlands in both areas.

Cryptoblepharus boutonii - uncommon.

Ctenotus robustus - inhabits well-drained exposed slopes with a dense ground cover of grass or low bushes. Usually near rock piles or flat rocks on soil.

Hemiergis peronii - inhabits sandy soils under loose mats of vegetation or tussock grass clumps, (at Callington) - see also Hemiergis decresiensis.

Leiolopisma trilineata - occurs near Mt. Compass and on Fleurieu Peninsula, usually on ridges and upper slopes. Both localities have sandy soils and low stunted Eucalyptus baxteri associated with heath-like vegetation. On 16th. September 1972 two aggregations of 33 and 24 turgid parchment shelled eggs were found buried under a large stump and fallen log respectively at Deep Creek, Fleurieu Peninsula. The soil was moist with a high proportion of rotting wood, bark and leaves. Three of the eggs were opened revealing well formed embryos which were unmistakably of this species.

Menetia greyi - common in drier well-drained areas, slopes and ridges with sparse tree cover.

Morethia obscura - occurs in the eastern and western foothills of the southern Ranges and surrounding plains. Associated with sandy soils in relatively high rainfall areas (higher than 450 mm. year).

Sphenomorphus quoyii - occurs in permanent westward flowing water courses north of Willunga. It is common along the River Sturt but housing development is threatening this population which is the only substantial one on the western side of the Ranges. It also occurs on the Murray River.

Sphenomorphus tympanum - (warm temperate form of Rawlinson-1971) - uncommon along watercourses and in swamps of Myponga on Fleurieu Peninsula. At most 2-3 specimens occurred within 20 metres along a bank, while 10 specimens of Sphenomorphus quoyii in the same distance was not unusual along the River Sturt in 1963.

Tiliqua scincoides - not common, most often encountered on the western foothills and slopes. Usually in association with rock piles or deep crevices under large, soil-buried rocks and boulders.

Typhlina australis - not common. An adult specimen (25 cm. long) found at Panorama (a southern Adelaide suburb in the foothills) on 8th. October 1974, was covered in condensation and under a large rock settled into moist compacted soil.

Austrelaps sp. - confined to higher altitudes and high rainfall areas around Norton Summit, Mt. Lofty and south into Fleurieu Peninsula. Also occurs on Kangaroo Island. Specimens found to date do not exceed 40 cm. and lack any red or pink colouration as present on Austrelaps superbus. On 14th. September 1973 a large adult specimen was observed basking on a north-eastward facing steep slope 100 m. down from the summit of Mt. Lofty. The basking site was a slight depression at the base of a small (10 cm. across) outcropping stone with partial cover of low tussock grass.

Notechis scutatus - on the eastern half of the Ranges, in the Bremer, Angus and Finniss Rivers and tributaries. These rivers flow to the Murray Valley ie. into Lake Alexandrina. Specimens are also known from Woodside on the westward-draining Onkaparinga River.

Pseudechis porphyriacus - found along watercourses and around reservoirs and swamps throughout the Mt. Lofty Ranges as far north as the Barossa Valley.

Pseudonaja textilis - widespread throughout the Ranges and foothills, more common on the drier eastern slopes and surrounding plains.

Chelodina longicollis - known to me only from the Bremer, Angus and Finniss Rivers which flow into Lake Alexandrina and from the River Torrens into which the species has no doubt been released as unwanted pets.

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REPTILES OF THE OXFORD FALLS AREA.

by P. Harlow, 30 Station St., Naremburn, N.S.W., 2065.
M. Van der Straaten, 14 Charlotte St., Dundas, N.S.W., 2117.

Oxford Falls is situated on the northern outskirts of Sydney and although small in area, contains a variety of habitats. It is a typical Hawkesbury sandstone region ranging from 90m. high hills with exposed rock outcrops, to relatively wide valleys. The fairly rugged terrain, steep slopes and at times shallow soil cover, combined with the porous nature of the sandy soil, mean that the soil retains little water, even though the average annual rainfall is 1200mm.

The soil of Hawkesbury sandstone is poor in nutrients, especially phosphates and nitrates. As a result the vegetation varies from sparse low scrub forest on the exposed plateaus, through a succession of different types of dry sclerophyll forest descending down into what could almost be described as temperate rainforest in the deeper valleys.

The Falls consist of a series of cascades that fall into a stream flowing in a north-easterly direction, and terminating in Narrabeen Lagoon. Before this stream enters the lagoon, it is joined by numerous smaller streams cutting down from the plateaus above.

Observations on Reptiles

Brown Tree snakes (Boiga irregularis), Green Tree snakes (Dendrelaphis punctulatus) and Diamond pythons (Morelia spilotes), appear to follow a regular pattern of movement from season to season. These snakes, being climbers, are found in trees or shrubs during the warm and hot months of the year. In the cooler months they seek shelter under rocks lying on rock, exfoliations or in crevices.

Black snakes (Pseudechis porphyriacus), Tiger snakes (Notechis scutatus) and the smaller Marsh snakes (Hemiaspis signata) are usually encountered in open areas adjacent to some watercourse. The same habitat is shared by Blue-tongue skinks (Tiliqua scincoides), Water dragons (Physignathus lesueurii), Water skinks (Sphenomorphus quoyii), Three-toed skinks (Saiphos equalis), Weasel skinks (Leiolopisma mustelina), Red-throated skinks (Leiolopisma platynota), and two species of Grass skinks (Leiolopisma guichenoti and L. delicata).

Small-eyed snakes (Cryptophis nigrescens), Yellow-faced Whip snakes (Demansia psammophis), Bandy-bandy (Vermicella annulata) and Blind snakes (Typhlina nigrescens) occupy sandy, loamy areas with scattered sandstone rocks. Coppertail skinks (Ctenotus taeniolatus) are commonly found under these rocks. Cunningham skinks (Egernia cunninghami), Wall skinks (Cryptoblepharus boutonii), Wood geckoes (Diplodactylus vittatus), Lesueur's geckoes (Oedura lesueurii) and Thick tailed geckoes (Underwoodisaurus milii) also occur in this same habitat where the sandstone is formed into larger outcrops.

Observations have shown that the Golden crowned snakes (Cacophis squamulosus) make an appearance during the months of September and October and again in April and May. When found (usually on slopes), they are invariably sheltering under rocks, bark or logs.

Brown snakes (Pseudonaja textilis) appear almost anywhere in the district, with the exception of water courses in deep and damp conditions. Bearded dragons (Amphibolurus barbatus) occupy similar areas, and are often found in the same area over considerable periods of time. Blue-tongue skinks, Gould's monitors (Varanus gouldii) and Lace monitors (Varanus varius) are nomadic. Southern leaftail geckoes (Phyllurus platurus) live in close-fitting crevices and honey-comb rock formations

in conditions of partial darkness and dampness. Sandy and open grassy areas with light cover such as small shrubs, grassy tussocks and building wastes (ie. sheet iron, timber, fibro etc.) provide suitable conditions for Burton's Legless lizards (Lialis burtonis) and Scaly-foots (Pygopus lepidopodus). Where fallen leaves or bark accumulate in abundance, such as at the base of large trees or in between deep and wide rock crevices, an occasional Death Adder (Acanthophis antarcticus) may be found.

These observations are based on the observations of the authors over a number of years. The Australian Herpetological Society conducted a field survey in this area on the 5th. October, 1975 and 19 of the above 33 species were found, including a Diamond python and a Brown Tree snake.

A BOOK FOR YOUR LIBRARY.

by M. Anstis, 630 King Georges Rd., Penshurst, N.S.W., 2222.

In future issues of the journal it is proposed to bring to readers' attention, books of value to herpetologists as references or models in their field work and captive studies.

Harris, V.A. (1964) "The Life of the Rainbow Lizard"
Published by Hutchinson and Co. Ltd. 178-202 Great Portland St., London, W1.
Also offices in Sydney and Melbourne.
Recommended price $3.75.

This book is an excellent study of the life history of a lizard from central Africa - one subspecies of the Rainbow lizards (Agama agama). The author fully describes the lizard, giving detailed notes on growth and behaviour throughout its life. Of particular interest are the sections on colour change, breeding behaviour, feeding habits, population dynamics, thermoregulation, territorial behaviour and methods of marking lizards. Unlike many scholarly works, this book is written in a most readable narrative style. This species belongs to the same family (Agamidae) as the Australian dragon lizards, and the book is strongly recommended to all who are interested in studying a single species in depth. The author's methods, which did not use particularly sophisticated instruments, are clearly explained, easily understood, and can be applied to other reptile studies. The book introduces the amateur herpetologist to appropriate methods of recording field observations and other data.

OBSERVATIONS REGARDING THE SURGICAL REMOVAL OF THE VENOM GLANDS OF AN ELAPID.

by D.B. Millar, 45 Elizabeth St., Artarmon, 2064.

In the recently completed Education Centre at the Australian Museum displays of live animals including reptiles were planned as teaching aids. Though merit was seen in showing some of the larger elapids the use of dangerous snakes was ruled out because of the remote chance of accident. It was therefore decided that an attempt should be made to render a Tiger Snake (Notechis scutatus) completely harmless.

Most reports in the literature of such attempts have centred around prevention of fang penetration by either breaking the fangs or sewing the animals mouth closed. The former is only partially effective and temporary while the latter disregards the well being of the snake. Oliver (1958) and Klauber (1972) mention various methods used to reduce the risk of handling venemous snakes including repeated milking, breaking fangs and excising the fang bed of the maxilla, however it was believed that only methods which positively prevent venom from entering the mouth could be considered as possibly effective, particularly in dealing with species whose highly potent, low molecular weight venoms readily permeate body tissues. Oliver makes reference to ligation of the venom duct to prevent delivery of venom to the mouth. This and most similar possibilities such as diathermy of the duct were not explored by the present author, however his removal of a 1 mm segment of the duct was discarded as unsatisfactory as, four months following such an operation, venom still entered the mouth through the incompletely healed incision. Complete excision of the venom gland was therefore chosen as a more positive measure.

The venom gland in the Eastern Tiger Snake, lying above the lip between the eye and the corner of the mouth, is roughly oval-shaped, tailing off anteriorly to form the venom duct. A muscle, the adductor mandibulae superficialis (the anterior temporal muscle of Fairley) is attached to and envelopes the posterior end of the sheath of the venom gland. The venom duct passes below the eye along the dorso-lateral surface of the maxilla and turns to empty into the fang sheath close to the entrance lumen of the fang. For more complete descriptions of the anatomy and function of the venom apparatus see Bellairs (1969), Oldham, et al. (1970) and Fairley (1929).

The subjects chosen were two apparently healthy male Eastern Tiger Snakes, Notechis s. scutatus of about 80 cm length. A separate operation was undertaken for each gland. Two anaesthetic techniques were used on different occasions. For the first operation each animal was placed in a gauze topped jar, which was in turn floated in a water bath. This was then refrigerated for five hours then placed in a freezer till the subjects temperature dropped to 4°C. at which temperature the animals were quite torpid. During the operation the snakes were kept cool with ice packs and care was taken to avoid warming the head by handling. No ill effects were observed and the animals took mice when offered after a recovery period of a fortnight. For the second operation chloroform was administered. A glass tube was placed over the head of each animal and gauze pads within the tubes were saturated with chloroform. The subjects were restrained until no reflex action could be elicited by stroking their flanks with a probe. The snakes were removed but returned for deeper anaesthesia as necessary. Following the use of this method neither specimen showed any interest in food and were maintained by tube feeding for many months. One specimen developed an infection of the wound which failed to respond to treatment with Cicatrin (Cicatrin Powder-Calmic (Aust.) Pty. Ltd.) and Sulphanilamide (Sulphanilamide Powder-May & Baker (Aust.) Pty. Ltd.). The condition of the animal deteriorated further and a respiratory tract infection was contracted. In view of the prognosis the animal was destroyed. The second specimen, after six months responded when offered mice and soon after voraciously fed on dead mice and chickens.

Following anaesthesia the superior labial and adjacent areas were swabbed with tin-

cture of metaphen. A short incision was made from the gum line between the third and fourth labials, another, longer incision from the corner of the mouth, following the posterior margin of the sixth labial to the temporals and a third incision along the gum line. The flap so formed was displaced to expose the venom gland, which was dissected out. Cicatrin Powder was liberally applied and fine nylon sutures were inserted. A gauze dressing formed into a pressure pad was applied and secured firmly with adhesive plaster encasing the head behind the eyes. After four days a less restrictive dressing was applied and sutures were removed after four weeks. Mice were offered two weeks after the operation.

Tests employed to assess the effectiveness of the procedure were to cause bites to a clipped area of the legs of mice at monthly intervals from the sixth month. Twenty-four hour survival by the mice was taken as an indication that no venom had been introduced into the wound. To the time of writing, a period of some twelve months, no evidence of envenomation has been observed.

One observed side effect has been considerable increase in black pigmentation, particularly nuchally. The reason for this is not known nor is the extent or nature of histological change known.

While a procedure has been developed by which elapids can apparently be rendered harmless, little justification for its use can be seen other than in most unusual circumstances. Of the anaesthetic techniques used it would appear that cold anaesthesia is the method of choice. More detailed investigation would be of value to herpetological medicine.

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LETTER TO THE EDITOR

Dear Sirs,

From time to time the Diamond and Carpet Pythons are incorrectly referred to in the literature as Morelia argus and recently the same error has appeared in private correspondence. In view of this it may be desirable to consider the following:

The snake originally described in 1758 as Coluber arges and in 1766 corrected to C. argus by Linnaeus was based on a drawing of an African species by Seba. Various authorities (Stull, Loveridge and Stimson) have held that the species depicted is the Diamond Python though in my view the colour, pattern and form in no way resemble any known species. Boulenger was much closer to the truth when he wrote of this illustration "....probably not executed from a specimen and certainly does not represent the Python (Diamond) here described. I regard C. argus as a mythical species."

Scalation and pattern in early figures are frequently inaccurate, indeed often times fanciful so I suggest we should not attach too much importance to the illustration. What is most significant however is the date of description. The East Coast of Australia had not, at that time, been discovered (by Cook in 1770). Obviously a species cannot be described before its type locality is discovered, therefore Lacepede's 1804 description is valid.

W. Irvine, 41 Farnell St., Gladesville, 2111.

MATING OF WILD RED BELLIED BLACK SNAKES.

PSEUDECHIS PORPHYRIACUS (SHAW).

By P.R. Rankin, 12 Finlays Ave., Earlwood, N.S.W., 2206.

Introduction

It is generally accepted by Australian herpetologists that in temperate areas of Australia, snakes mate in the months of spring Cogger (1967): Mid October to the end of December; Worrell (1963): about September to October; Fleay (1937) specifically states that the mating period for Pseudechis porphyriacus is October to November from observations in the wild and in captivity. Noble (1937) in his work on the courtship and mating of various non-Australian snakes showed that these tended to mate during periods of rising temperature.

Most observers also agree that it is the male snake which seeks out the female for mating Bellairs (1969); Davis (1936); Fleay (1937) for captive P. porphyriacus; Noble (1937); Stidworthy (1969); but Worrell (1963) states only that the two sexes are attracted - probably by scent.

Following is a description of a series of events which led to the mating of a pair of P. porphyriacus with possible implications regarding encounters between the two sexes in the wild.

Observations

The observations were made by the author in a small area of bushland used as a general reptile study area near his home in the Sydney suburb of Earlwood.

On 28th September 1974, a large P. porphyriacus was found basking outside a deep rock crevice and beneath a lantana thicket. As a closer approach was made, it retreated into the crevice. It was subsequently seen at the same spot on several other occasions that day. The following day, on several more occasions, a specimen of the same dimensions was seen on the same spot. Each time it was approached it responded by withdrawing to the same rock crevice.

On 1st October another visit was made to the location. The air temperature at the time was 25^{o}C, and it was intermittently overcast while the observations took place.

The scene was reached at 1230 hrs, and by approaching cautiously, the large snake was seen under the lantana near the entrance to the crevice where the previous observations had been made. It was moving around in circles, twitching its forebody. Closer examination revealed that in fact there were two snakes, the larger (almost certainly the one seen on this spot previously) proving to be a male 1.5m or more in total length. The other, a female, was smaller, measuring perhaps 1m - 1.2m in total length. The two snakes appeared to be so pre-occupied that they allowed a very close approach. The female was curled tightly on the ground beneath the male, and he was moving around on top of her, rubbing his mental area along her body and probing with his head (Fig. 1). He was evidently searching for her tail, for when he came to her head, he simply began rubbing along the body in the opposite direction. On several occasions when he came to her tail, he pushed his head beneath, lifting it up and attempting to bring his own tail beneath hers. It was difficult to see detail through the lantana, but it appeared that the male gently bit the female near the base of the tail when he reached it. Certainly he had his mouth open. As he crawled around and over the female, the male twitched his forebody, at the same time hissing loudly in short explosive bursts. Several times the male was seen to extrude one hemipenis briefly. The two snakes maintained the above behaviour, the female moving only slightly in her curled position until

1255 hrs. The female then stretched her body out about .75m. The male immediately aligned his head just behind the female's, keeping as much of his body as he could on top of hers. However, owing to the disparity in sizes the male's body overlapped to either side of the female's (Fig. 2). At the same time as he brought his body on top of the female, the male brought his tail level with, and curled it slightly under hers. The position that the two snakes assumed was not straight out, but rather the anterior sections of their bodies were loosely curled and there was a bend in the posterior portions. (Fig. 2). (Worrell, 1963, provides a photograph of a mating pair of P. porphyriacus in which the pair is curled more tightly than depicted here.) Copulation followed and lasted for only about two minutes. Only the left hemipenis appeared to be used, this being the closer to the female. During this time, the male kept twitching the forepart of his body. After copulation the female withdrew her body into a loose coil beneath the male. She then began to move gradually into the deep rock crevice. At 1300 hrs the male again started probing the female's body with his head, but she withdrew slowly further into the crevice. At 1305 hrs she withdrew completely, and the male followed shortly afterwards.

The site was revisited at 1455 hrs and 1510 hrs on the same day, but only the large male was present, and being very alert did not allow a close approach on either occasion before retreating into the crevice. On the following day (2nd October) at 1230 hrs another visit was made to the site where the snakes were seen mating. The large male was seen lying in the open, beneath the lantana thicket, and a smaller individual, presumed to be the same female due to its size, was seen to poke its head from the crevice but did not emerge fully.

After the last observation, the author was unable to return for two weeks. Following this period of absence, no P. porphyriacus were seen at the site although it was checked frequently.

Discussion

As stated above, previous workers have said that male snakes search actively for females during the mating period. Noble (1937) is very specific on this point. He says of a wild population of Northern Black Racers (Coluber constrictor constrictor) "Different females appear at widely separated spots and attract males which happen to be in that region at the moment. Several males were seen travelling over large sections of the hibernating area, indicating clearly that they do not restrict their searching to a particular spot."

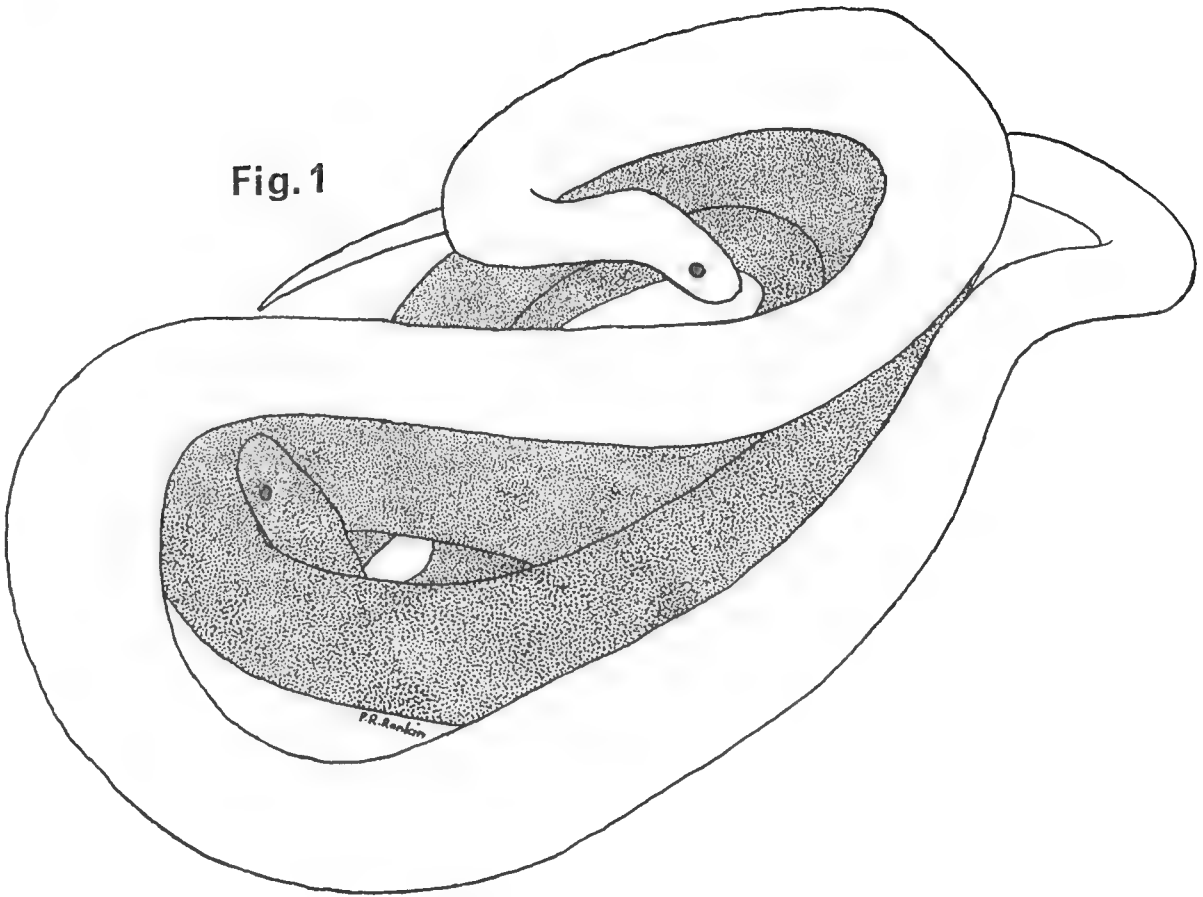
However, it seems almost certain that the large P. porphyriacus seen on 28th September was the same one subsequently observed on the same site and the individual involved in the mating. If this is the case, it would appear significant that the male was seen on the spot where it would later mate at least three days before any sexual activity was observed. It is also believed that the female was not in attendance on either the 28th or 29th as the male was observed often on these two days without any sighting of another snake. On this assumption it would seem that at least in this case the female came to the male before sexual activity began.

Fleay (1937, 1951) implies that male P. porphyriacus are territorial during the breeding season. However, he gives no indication of his definition of territoriality. On territoriality in snakes, Bellairs (1969) reports that there is no firm evidence that snakes do in fact guard territories although he states that they may patrol particular home ranges in which they may reside for long periods.

If Fleay is correct in assuming that male P. porphyriacus are truly territorial and it is subsequently shown that females are not, then because females are not restricted in such a manner, the possibility arises that they may move through larger areas than males during the spring.

Primary reasons why female P. porphyriacus may move greater distances than males during the spring may be:

Fig. 1



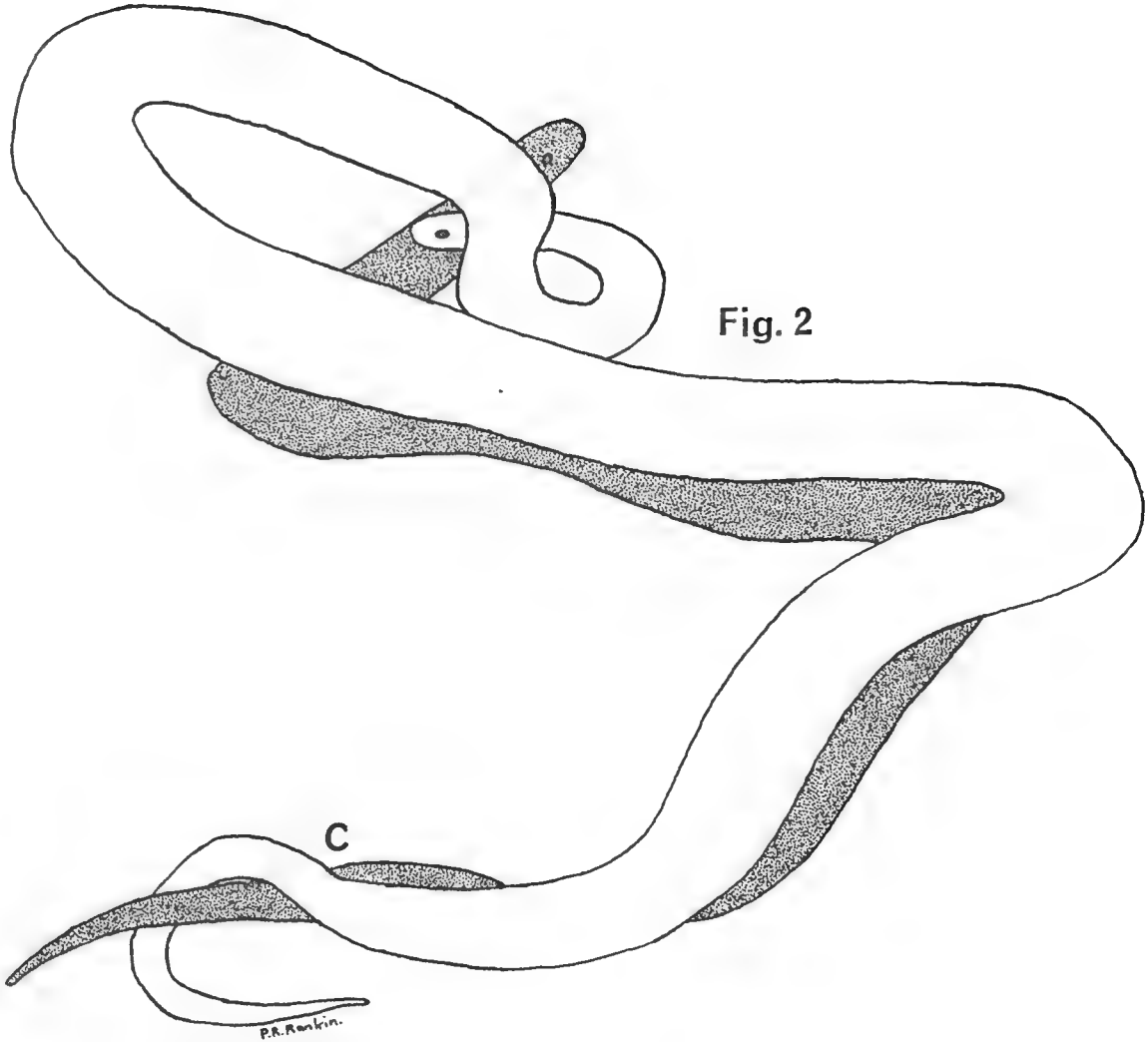


Fig. 2

(a) With the prospect of having to support developing eggs, the female may need to become more active than a male in searching for food in an endeavour to lay down a supply of fat for the use of developing embryos and itself. Kauffeld (1969) reports that female snakes fast "if not for the entire period of gestation, at least in the latter stages." He gives the reason as being that the developing embryos impair the passage of food along the intestines. They are also likely to be much more vulnerable due to impaired movement.

(b) A corollary of females behaving in such a manner may be that they would come into contact with several males thus increasing the chance of a successful mating.

Evidence for or against the hypothesis that females are more active than males during the breeding season could perhaps be produced by a critical examination of the sex ratios of road-killed P. porphyriacus during the spring months when more data comes to hand. A higher percentage of females than males could indicate a greater movement of that sex during this period. This would of course be dependant on the assumption that the ratio of sexes in the population is one to one. Alternately, if the ratio was found to be larger in favour of one sex, then an abnormal unbalance in favour of females during the breeding season could still provide evidence for the hypothesis. A further point which should be considered here is that one or other of the sexes may be less agile or alert at different times or throughout the year.

In non-territorial species of snakes where the males are not confined within discrete areas, they probably engage in active wide ranging searches for females during the mating period.

The description of copulation and pre-copulatory behaviour presented above compares closely with Fleay's (1937) general account. Although descriptions of snake matings have been fragmentary, an examination of Davis' (1936) paper indicates that the accounts of P. porphyriacus presented here and by Fleay differ in some respects from those of other species.

The time recorded above for copulation is very short when compared with records of some non-Australian snakes. Noble (1937) reported that copulation for a captive pair of Dekay's Snakes, Storeria dekayi, lasted twenty-four minutes. Mole (1924) cites a record of a pair of Anacondas, Eunectes murinus, which were "sexually engaged" from December 24th until January 13th. In this however, he does not give any indication as to whether this was coitus for the whole period. Street (1967) reported that a captive pair of British Smooth Snakes, Coronella austriaca, were engaged in copulation for five hours thirty-five minutes and two hours forty-five minutes on two separate occasions.

When considered against an Australian record of mating in captivity between a male Broad Headed Snake (Hoplocephalus bungaroides) and a female Stephens' Banded Snake (H. stephensi) - Hayes (1973), P. porphyriacus compares more closely. Hayes gives only one accurate timing for a copulation - three minutes, from observations in five instances, but his description leaves little doubt that all of the other matings were equally short.

It may further be noted that the two snakes described here were of quite different sizes - the male 1.5 m or more, and the female 1 m - 1.2 m in total lengths. This disparity seemed not to affect the reptiles in any way and copulation was achieved without any apparent difficulties.

Conclusions

These observations, together with the fragmentary published evidence suggest that in Pseudechis porphyriacus

(a) the males may be territorial during the breeding season, a consequence being that they would restrict their searches for females to their own

territory, and

(b) the females may range more widely than males during the breeding season, possibly as a response to greater food intake requirements than males at this time of year.

So far, the published evidence appears insufficient for a large scale comparison of different courtship rituals among snakes.

Finally, because the observations reported here were made on wild and apparently undisturbed animals, it is likely that typical behaviour was observed.

Acknowledgments

I wish to offer my thanks and appreciation to all of the staff of the Department of Herpetology, Australian Museum, for assistance with library and reference material, and in particular to Dr. H.G. Cogger for his helpful and constructive criticisms, and to Mrs. A. Young for typing the manuscript. I am also indebted to Mr. R. Wells who offered helpful comments, particularly when we discussed this manuscript in its preliminary stages.

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Description of Figures

Figure 1. Pre-copulatory behaviour in a pair of Pseudechis porphyriacus.

Figure 2. Copulating pair of Pseudechis porphyriacus. The "c" indicates the approximate position of the cloacae.

In each drawing, the stippled snake is the female. Both were reproduced from photographs by the author.

COURTSHIP BEHAVIOUR IN THE AUSTRALIAN TREE FROG, LITORIA EWINGI (ANURA: HYLIDAE).

by M. Anstis, 630 King George's Rd., Penshurst, N.S.W., 2222.

Litoria ewingi, the Brown Tree Frog, is a small frog found in south-eastern Australia and Tasmania. It is usually light brown with a darker brown mid-dorsal patch and bright orange thighs (see Cogger, 1975, p. 94). The observations presented here suggest that this frog has a much more complex courtship behaviour than that of other Australian frogs.

The normal courtship behaviour of tree-frogs involves the male first calling from a vantage point near water and a female, in breeding condition, approaching him. The female does not respond to the call of another species, even though there may be a chorus of several species beside the same water. When the female has reached the male, amplexus quickly follows - the male clasping the female from above (pressing his clenched fists into her arm-pits). The female then carries the male throughout the period of egg-laying, which may last from about twenty minutes to several hours depending on the species.

This sequence of behaviour did not occur as above in a pair of Litoria ewingi observed in Adelaide on 30th August 1972. The frogs were caught separately during the day near Lobethal, South Australia, and placed together that evening in a plastic bag containing pond water. No activity occurred until 9.00 p.m. when the male began to slowly approach the female, giving soft, single croaks (quite distinct from the rapid mating call). The female remained completely still while the male moved very slowly all over her body, clutching and releasing her in odd positions - across the hindquarters, the abdomen and even "backward" amplexus (the male's head above the female's hindquarters, his hands pressing in her groin and his vent above her head). Each movement he made was preceded by a soft croak. He moved his arms all over her and once pushed her motionless body forward and underwater. After six minutes of this procedure, the female leaped about 12 cm. away from the male. He remained still, facing her, for about fifteen minutes, then gradually began to close the gap between them, taking only a very slight forward movement at a time, interspersed with single croaks. The female did not move away again. When he eventually touched her hindquarters, he took five minutes to slowly work his way up the female, stopping and starting, clasping and releasing, until he reached the normal position for amplexus, placing his fists in the female's arm-pits. Here he repeatedly adjusted his grip and position for a further five minutes and finally remained at rest, after a total period of 31 minutes in apparent courtship behaviour.

Eggs were found at 5.10 a.m. the following morning and the pair had separated.

The above account may not describe the standard behaviour of this species in the natural state, as captive conditions may have in some way affected the frog's activities, but nevertheless, it is sufficiently interesting to warrant further study of pre-mating behaviour in this, and other species, in the field. The elaborate and time-consuming nature of the male's movements over the female prior to amplexus has not been reported for any other Australian frog and perhaps can be likened to the extensive courtship behaviour of many newts and salamanders in Europe and America. There is also a possibility that the male was young and inexperienced, with mating behaviour as yet underdeveloped. Field observations of pre-amplexus behaviour in several pairs would be necessary to determine whether this unusual behaviour is normal for this species.

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BOOK REVIEW

REPTILES AND AMPHIBIANS OF AUSTRALIA
by Harold G. Cogger

Published by A.H. & A.W. Reed, Sydney 1975. Recommended price, $23.95.

Over the past century there has been a slow evolution of semi popular herpetological literature. In their time Krefft, Kinghorn and Worrell have each been The identification manual and the coverage has gradually broadened. Now a new peak has emerged - Cogger.

This book is intended as an identification manual of Australian reptiles and frogs, and is not intended to cover the biology of these animals nor does it include tadpole identification. For many readers it will serve to bring to their attention numerous changes in taxonomy of which they were not aware. Certainly it may be used as a catalogue of species and subspecies currently recognised by the author and accepted by most herpetologists. Specialists' opinions of course sometimes differ in any discipline and herpetological taxonomy is no exception to this rule. Thus there may be some who disagree with Dr. Cogger's treatment of an occasional taxon, for example his recognition of the genus Unechis, however in such cases he has mentioned the variance of opinion and encourages the reader to consult the literature and make up his own mind.

A point to be remembered is that any book, particularly one as comprehensive as this, is inevitably outdated in some small areas before it comes off the press. Dr. Cogger's manuscript was completed on 31st December 1974 so any taxonomic changes proposed during 1975, irrespective of their acceptability to the author, could not be included.

Asked for the most outstanding and useful feature of the book I would suggest the nitty gritty of an identification manual, the keys. A great deal of effort is required to develop useful keys and it seems that, being unglamorous, they are usually overlooked until needed. Such need may never arise in familiar territory, however, when further afield the user of this book will come to appreciate their methodical simplicity. The characters used are mostly discernible in the living animal though in dealing with small creatures, it is much easier to examine an immobilised beast. The terms used, if not already familiar, will take little effort to master and are explained lucidly in the text, diagramatically and in an excellent glossary.

The illustrations consist of over 80 line drawings, 594 black and white, and 192 colour photographs. The black and whites, depicting the majority of species are grouped into a separate section following the text, while twelve leaves of colour plates are distributed through the text. I suspect that in a few cases reproduction of the colour plates may not have equalled the quality of the original photographs, however, overall the standard is excellent.

The introduction deals with a wide range of topics, some to explain the organisation of the book and others to comment on additional matters. There are notes on collecting techniques and tools, care of captive specimens and the fixation, preservation and labelling of dead material.

Another section deals with conservation and protection. Recent research on small mammals suggests that many reserves are of insufficient size to allow long term survival of some species. To what extent reptiles are similarly affected remains to be seen and is outside the scope of this book, but the small mammal situation illustrates the view that in general it is of no avail to enact and enforce statutory protection unless there is adequate environmental protection. To quote Dr. Cogger, "...reptile and frog populations in Australia are rarely affected by direct human exploitation of the animal....for most reptiles and frogs, ultimate survival will depend not on the formality of 'legal' or statutory protection, but on the

survival of the environment in which they live."

The body of the text includes the keys and a series of diagnostic descriptions, essentially to species level, with listings of currently recognised subspecies and their approximate distribution. Such habits of each species as may aid in its identification and the known distribution are given. The latter is also displayed on an outline map of Australia which of course can be easily updated with the growth of knowledge.

The author states that he has attempted, in compilation of the selection of 130 or so references cited, to strike a balance between classical and recent works. He has also made it a cross section of levels of herpetological literature so that most readers will find material suited to their developing interest. Unfortunately some of the books are out of print and other works may not be readily procurable, however those which are not in private collections should all be available through state and museum libraries.

At $23.95 the book is anything but cheap, however, the quality of paper and binding match that of the textual material to give good and lasting value. In so far as this book is a necessary tool to those involved in Australian herpetology any review could be superfluous, but it may ensure that a greater number of those interested will be made aware of its recent publication. As the author has noted, increased public interest has been stimulated by herpetological literature appearing in the past decade or so, it can be expected that this, the most comprehensive to date will generate additional interest in herpetology at all levels.

- David B. Millar.

OBSERVATIONS ON MEXICAN WALKING FISH

OR AXOLOTLS, AMBYSTOMA MEXICANUM IN CAPTIVITY.

by K. Baker, 15 Charles St., Five Dock, N.S.W., 2046.

Introduction

The Axolotl is the neotenic form of a species of salamander which is native to Mexico and elsewhere. It is commonly kept in aquaria in Australia and often termed "walking fish", although it is not a fish, but the tadpole or larval stage of a salamander. Salamanders and newts are called "tailed amphibians (order Urodela)" because the tail of the larva is retained throughout terrestrial adult life. This group of amphibia is not found naturally in Australia.

General Description

Axolotls have an unusual appearance, as shown in Fig. 1, possessing feathery gills on either side of the broad head. There are two distinct colour types:

1. generally a deep olive dorsum heavily mottled with black
2. a pinkish white with bright red gills.

The forelimbs have four fingers and the hindlimbs five toes (which are partially webbed).
They usually reach a length of 25 to 30 cm.

Observations

The following notes are based on a pair of captive specimens, one black and one white. They were first obtained when about 4 cm. long and fed first on mosquito larvae, and later on worms. Eventually they began to take minced meat from the end of a piece of wire. With constant feeding, they reached a length of 30 cm. within six months. During growth, they have been housed in an aquarium holding over 70 litres of water and containing some anchored plants and a surface cover of duckweed. The aquarium is kept in a shaded area in the garden, as Axolotls are nocturnal and sensitive to light.

They are generally sluggish, moving very slowly about the bottom of the aquarium. If disturbed, they swim rapidly around the aquarium, uprooting plants.

Reproduction

After about four years in captivity, the pair began breeding. Eggs were laid between August and December. Between 600 and 1000 eggs at one time were found on rocks, water plants and other material within the aquarium. The pair sometimes bred twice in the same season, the female laying fewer eggs the second time. The eggs hatch after one to four weeks, depending on the water temperature (the warmer the water, the sooner they hatch).

In approximately 3% of the eggs, two embryos developed within the one egg capsule - one white and one black, never two of the same colour. In such cases both embryos developed and hatched normally.

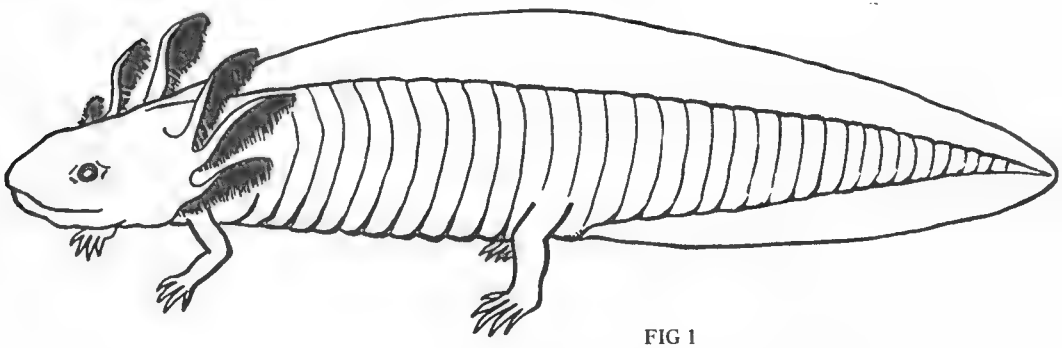

FIG 1

Feeding

The young hatchlings can be cannibalistic if not given enough food. They should be fed on any small aquatic crustaceans (such as water fleas), mosquito larvae, or very small tadpoles. Larger Axolotls (over 4 cm. long) may be fed on raw pieces of steak, minced meat, worms, tadpoles or frogs.

Fig. 2 Stages in the Development of the Embryo

a. 1st day. The embryo is a dark ball in the centre of the egg capsule.

b. 3rd day. The embryo turns a dark brown with the shape of the head developing.

c. 4th day. Still dark brown, with head, body and tail bud developing.

d. 5th day. The head and tail develop further, and gills are beginning to form.

e. 6th day. Increased development, with the eye becoming more pronounced.

f. 7th day. The gills have developed further and the tail fins are enlarging.

g. 9th day. Violent movement by the embryo within its capsule, prior to hatching.

h.10th day. The newly hatched embryo.

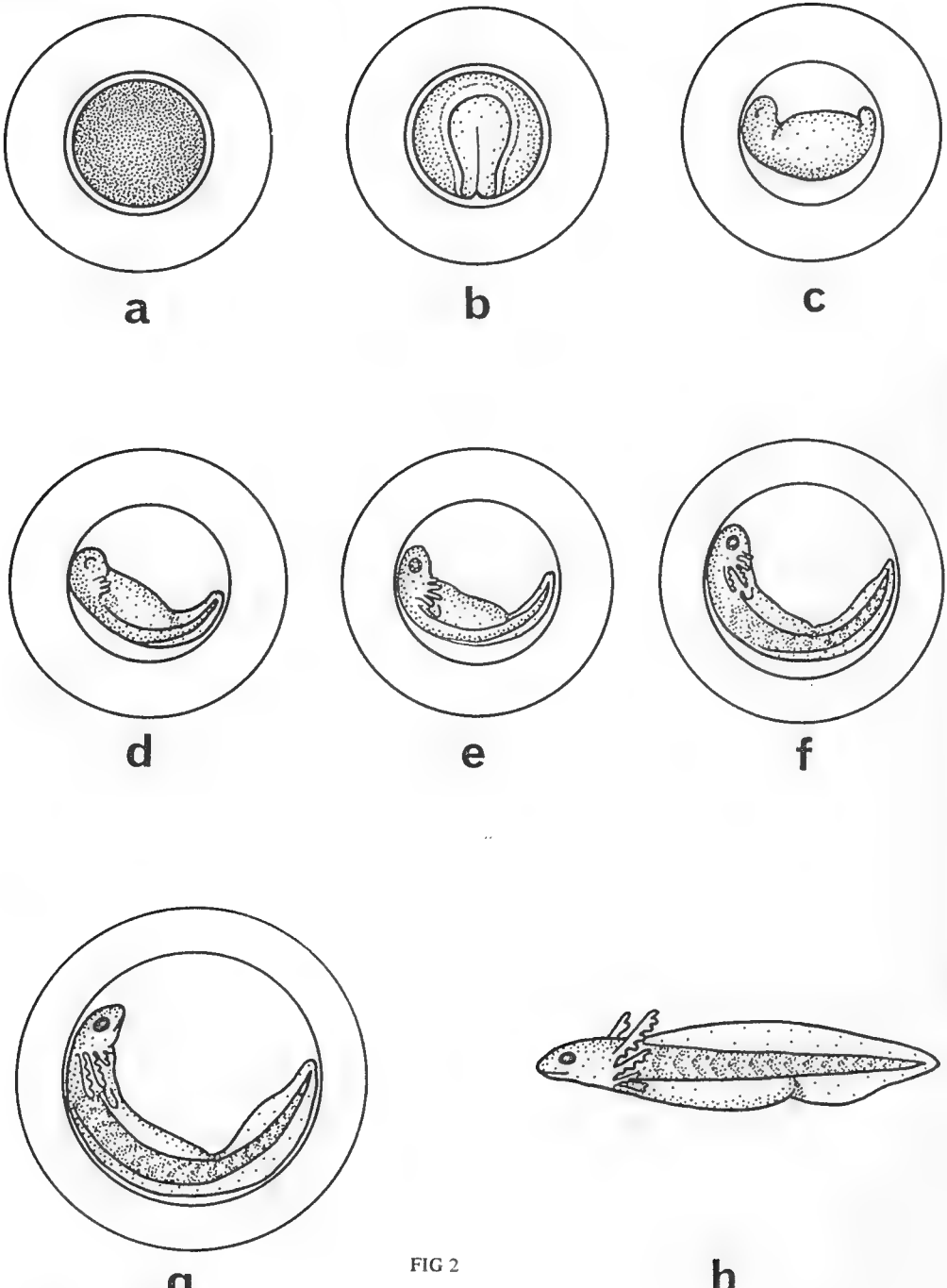

FIG 2

REPTILES OF THE CORUNNA HILLS

by J. White, 4 Elderslie Ave., Prospect, 5082.

The Corunna Hills are an isolated range of hills situated in arid grazing country on Northern Eyre Peninsula, South Australia. The hills rise to 390 metres, approximately 220 metres above the surrounding flat bluebush and saltbush plains. The range has its long axis running north-south for about 8 km., and at its widest point is 4 km. across. The range is approximately 80 km. south-west of Pt. Augusta (Lat. 32°41'S: Long. 137°6'E).

The surrounding sandy plains, now grazed by cattle and sheep, are covered with saltbush, yet the rocky range has virtually no saltbush, and is covered almost entirely by Triodia and some low mulga trees. The whole range is transected by a series of spectacular rocky gorges, some with sheer rock cliffs over a hundred metres high. At the bottom of the gorges lie rocky watercourses which are dry except after heavy rain. The whole range is punctuated by massive rock outcrops, and nearly all the southern hill slopes are steep, with numerous small rock outcrops.

This is an area of considerable herpetological interest, for many species of reptiles are isolated in the range, unable to traverse the large intervening plains to the nearest rocky outcrops, some 32 km. away.

Both the South Australian Herpetology Group and the Western Herpetology Group have held field trips in this area, and between them have so far collected twenty-two species of reptiles from the range.

The most interesting find was that of a pair of Children's Pythons (Liasis childreni) by the WHG. The small rocky outcrops where they were found, were surrounded by Triodia. There were numerous Peninsula Dragons (Amphibolurus fionni) in the vicinity, and it seems likely that this species may be an important food item for the Children's Pythons. Corunna Hills is several hundred km. south of previous records of Children's Pythons, and their discovery at Corunna suggests that they may be present on many of the isolated rock outcrops of Northern Eyre Peninsula. Since their discovery at Corunna, specimens have been seen at Woomera, and at Quorn, both of which lie to the north of Corunna. The SAHG and WHG hope to further extend the known range of this interesting python during the next year. We also hope to conduct a long term study of the population ecology of Children's Pythons of Corunna Hills.

The SAHG have also found several Yellow-faced Whip Snakes (Demansia psammophis) in the range. One adult specimen was seen halfway up a rocky slope, living in a small rock outcrop.

One large King Brown Snake (Pseudechis australis) was found on the top of the range. It was discovered basking in the sun, at the edge of a cliff, early in the morning, and was quite inactive when caught.

Although no specimens were seen, it is probable that the Western Brown Snake (Pseudonaja nuchalis) inhabits the base of the ranges, and the surrounding plains.

Skinks were by far the most numerous reptiles in the range. Around the base of the range, several Shinglebacks (Tiliqua rugosa) were seen, and at the southern end, a Common Bluetongue (Tiliqua scincoides) was found, extending the known range of this species considerably. Two small skinks, Cryptoblepharus boutonii and Morethia sp. were quite common around the creek beds. The Spotted-necked Skink (Tiliqua branchialis) was very common at the base of the range, and on the lower slopes. Approximately forty specimens were found by the SAHG, all residing, inactive, under Triodia bushes. Two species of Striped Skink were found. Ctenotus pantherinus occellifer was common under Triodia and amongst rocks at the base of the range. Ctenotus saxatilis was common high up the slopes, also living amongst the Triodia

and rocks. Stokes' Skink (Egernia stokesii) was found in large numbers in the rock crevices of the gorges, mainly on the north side where the sun rarely penetrated for much of the day. The typical piles of faeces of this species were clearly in evidence.

Six species of geckoes were found in the area by the SAHG. Around the base of the ranges, the Stone Gecko (Diplodactylus vittatus) and Dtella (Gehyra punctata) were found, the latter in association with low shrubs. Both species were uncommon. The Jewel Gecko (Diplodactylus elderi) was common on the lower slopes, living amongst the Triodia bushes, often in association with Tiliqua branchialis, as was the Spiny Gecko (Diplodactylus ciliaris intermedius). Higher up the rocky slopes, under spinifex, the Thick-tailed Gecko (Underwoodisaurus milii) was common. Binoe's Gecko (Heteronotia binoei), abundant on the higher slopes, was usually associated with rock outcrops.

Two species of legless lizard were recorded from the area, Delma australis and Delma nasuta, both of which frequented the Triodia clumps, often in association with Diplodactylus elderi.

Only three species of dragon were found in the area. Around the base of the range, the Earless Dragon (Tympanocryptis lineata) predominated, being found under Triodia. This species probably inhabits the plains in large numbers, and is not a truly isolated range species. Several Bearded Dragons (Amphibolurus barbatus) were found on the lower rocky slopes. By far the most common dragon was the Peninsula Dragon (Amphibolurus fionni). This interesting member of the decresii-fionni-vadnappa rock dragon complex is very common throughout the rocky outcrops of Northern Eyre Peninsula. At Corunna, the species inhabits the rocky slopes from near the base, right to the top, and is undoubtably an important food source for the snakes of the ranges, as well as the smaller birds of prey. John Gibbons (personal communication) has suggested that the young of this species complex inhabit the plains and bases of the slopes, moving further uphill as subadults, finally occupying the upper slopes and large rock outcrops, which is the typical habitat of this species complex, as adults. In accord with this, the SAHG found only adult males and females, and a few large subadults on the higher slopes and the top of the range. Few specimens of any age group were found near the base and lower slopes of the range.

No monitors were seen by the SAHG and local citizens do not know of them in the general area. The most likely species present would be Gould's Monitor (Varanus gouldii). It would seem unlikely that the species inhabits the actual range, though it is probably present on the plains.

The diversity of interesting reptile fauna of the Corunna Hills, the relative isolation of the area, and the remarkable preservation of the natural vegetation of the ranges, which are free from stock, would make this area ideal for a Conservation Park (a type of reserve in South Australia). The SAHG intends recommending to the National Parks and Wildlife Service of S.A. that the area be set aside. The area is also ideal for the detailed study of a number of reptile species.

Acknowledgements:

I wish to thank Dr. T.F. Houston of the S.A. Museum for his help in identifying the species found by the SAHG at Corunna Hills. Mr. H. Nygren, of the WHG communicated valuable information on his Group's capture of the two Children's Pythons. I wish to sincerely thank the following members of the SAHG who helped in this survey: Alex Bushell, Anne Bushell, James Bushell, John Fowler, Mark Galliford, Danuei Garret, John Hill, Noel Holmes, Paul Huggins, Chris Hughes, Nick Joy, Darryl Levi, Jenny Levi, and Paul Worthley.

TABLE I.

Species collected or seen at Corunna Hills by the SAHG, June 1975. Brackets indicate South Australian Museum registration numbers.

Elapidae:

Pseudechis australis
Demansia psammophis

Scincidae:

Cryptoblepharus boutoni (R14688)
Morethia sp.
Tiliqua scincoides
Tiliqua branchialis (R14685)
Egernia stokesii
Ctenotus saxatilis (R14693)
Ctenotus pantherinus occellifer (R14684)
Tiliqua rugosa

Gekkonidae:

Diplodactylus vittatus
Diplodactylus ciliaris intermedius (R14697)
Diplodactylus elderi (R14692)
Gehyra punctata (R14691)
Heteronotia binoei (R14689)
Underwoodisaurus milii (R14690)

Pygopodidae:

Delma australis (R14695)
Delma nasuta (R14696)

Agamidae:

Tympanocryptis lineata (R14686)
Amphibolurus fionni (R14694)
Amphibolurus barbatus

HISSES AND CROAKS

Australasian

The Australasian Affiliation of Herpetological Societies is in the process of being set up (see editorial). The Affiliation will effectively take control of Herpetofauna's editing, financing, publication and distribution, thereby distributing the work load involved amongst the member societies. Under the new arrangements individual journal subscriptions are being offered to persons who do not wish to join any of the member societies (see under Notes to Contributors).

Postal costs have risen steeply and will erode member society finances more than ever before. Member societies can avail themselves of the mailing system set up for Herpetofauna by sending copies of their newsletters with their mailing lists in November and May for inclusion with their Members' journals.

Melbourne

Reptiles in Victoria are due to be protected during February 1976. A vigorous campaign in the press, on radio and television has been waged by the Victorian society to rally support and add weight to their submissions to the Fisheries and Wildlife Department. The public relations work has also included speaking to interested clubs and societies.

The Victorian society was formed as a branch of the Sydney-based AHS, but experience has shown that this arrangement is not really workable. Accordingly both societies have preliminarily agreed that Victorian autonomy in name as well as action is desirable and steps are being taken to effect this.

Peter Brown now at Healesville continues in herpetological endeavours as Convenor of the Friends of the Earth Fauna and Habitat Conservation Group. A recent project has been a substantial and important submission on the dangers facing the Baw Baw Frog (Philoria frosti) which is restricted to an extremely small range in the Mt. Baw Baw snowfields.

Whyalla

An active field program has extended survey work to southern Eyre Peninsula and the Flinders Ranges. Of particular interest at present is the Black Tiger Snake (Notechis ater) in these outlying areas. Several valuable specimens and range extensions have already been lodged in the S.A. Museum. Some joint surveys with the SAHG are planned in 1976.

The WHG is also heavily committed to voluntary participation in the Whyalla Fauna and Reptile Park. Exhibits consist of mainly large local snakes with suitable designed visual impact information boards. The aim is to encourage the public's acceptance of reptiles as a necessary and desirable part of Australia's wildlife. The Park will also be the focus and nucleus of herpetological activity on Eyre Peninsula.

Northern Territory

The Northern Territory seems to have a herpetological magnet which attracts a continual stream of herpies from near and far. At one stage in October 1975, it was estimated that there were at least 17 herpies in Alice Springs alone. This was accounted for by a spectrum of amateurs and professionals, and they ranged from residents of Alice Springs to a couple from the U.S. And of course the reasons for all this interest are obvious. The Northern Territory is one of Australia's main herpetological frontiers with new and little known species being collected, and massive range extensions being almost the norm.

One of the more spectacular of these discoveries was the finding in June 1975 of a large new species of python from the escarpment country of Western Arnhem land. As yet it remains undescribed.

Sydney

The AHS will now meet on the fourth Friday of every month in the new Education Centre Lecture Theatre at the Australian Museum. This theatre offers much improved facilities both for lecturers and members.

A new constitution was drafted during the latter part of 1975 and has been passed at a special General Meeting held in November. The Constitution is a major step towards a better organised and more active future for the Society. The AHS strongly supports moves by the Victorian society to become autonomous. This can only strengthen Victorian Herpetological activities.

During a field trip to Oxford Falls 19 species were recorded. Of these, a Diamond Python (Morelia S. spilotes) and a Brown Tree Snake (Bioga irregularis), were kept for a live display at the Australian Museum. This will be used in lessons for school groups and in after school programs for inner city children, many of whom are from a deprived background.

Adelaide

The SAHG has been very active with field work between August and December 1975. Seven Group trips totalling 5000 field-man-hours were undertaken. Representative specimens collected were lodged in the S.A. Museum from localities as far as 1000 km from Adelaide. A vigorous trip and meeting program is planned for 1976. Full details at meetings. The Redcliffe Herptile Survey Report has been published and distributed amongst herpetological societies, museums and libraries. Interstate people wishing to examine a copy should contact their state museum's herpetology section as the printing was very limited.

Members have also been active in setting up one or two week exhibits of reptiles with a conservation slant at two schools, three major shopping centres, a bank and in two State Government offices. The response was most encouraging.

NOTES TO CONTRIBUTORS

"Herpetofauna" publishes original articles on any aspect of reptiles and amphibians. Articles are invited from any interested authors; encouragement is given to articles reporting field work and observations. Contributors should use a recent issue of "Herpetofauna" and the points listed below as a guide in preparing articles.

1. Publication Policy.
Authors are responsible for the accuracy of the data presented in any submitted article. Any taxonomic combination used must have been formally described and authors should be prepared to justify the taxonomy used.
Upon publication, copyright in the article (including illustrations) becomes the property of the Affiliation. The original illustrations will be returned to the author, if requested, after publication.

2. Submission of Manuscript.
One copy of the article (including any illustrations) should be submitted, the author retaining a second copy. All material should be typewritten or clearly hand-printed and double-spaced. Quality bond paper should be used and a good margin provided on each side of the script. Grammar and punctuation should be checked and all pages must be numbered consecutively.
The metric system should be used throughout. All scientific names and sub-headings should be underlined. The author's name and address should appear under the title. Latitude and longitude of localities mentioned should be indicated.

3. Illustrations.
Illustrations (drawings, maps or photographs) should be one and a half times the anticipated published size if possible. The actual dimensions of a printed page in the journal (excluding margins) will be 12.7 cm (width) x 18.0 cm (depth).
Drawings should be in Indian ink on high quality, matt white paper. Authors should retain a copy of each illustration. Authors submitting photographs are requested to consider helping to meet the cost of their photographic plates in accordance with their ability to pay.
Coloured illustrations cannot be accepted unless the author is prepared to pay the extra cost.

4. References.
Any references made to other published material must be cited in the text, giving the author, the year of publication and the page numbers, if necessary. eg. Jones (1968, p. 24). At the end of the article, full reference should be given (see previous journals).

5. Proofs.
If any changes, other than minor ones, need to be made to the article, a proof with suggested changes will be sent to the author for his revision. Proofs should then be re-submitted by the author as soon as possible.

INDIVIDUAL JOURNAL SUBSCRIPTIONS

Persons wishing to subscribe to Herpetofauna, but who do not wish to become a member of one of the existing Herpetological groups, may subscribe direct. A three year subscription is being offered for $7.50. Enquiries should be directed to:

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